

Projection of Shape Features for 3D Model Retrieval

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Abstract

In this paper, the combination of different projected shape features is proposed for 3D model retrieval. The projection features include the elevation value (depth), the radial distance, and the angle of a surface mesh. For each of the characteristic values (elevation value, radial distance, and angle value), six projection planes represented as gray-level images will be generated. The MPEG-7 angular radial transform (ART) is then used to compute the feature vector from each projection plane. Experiments conducted on the Princeton Shape Benchmark (PSB) database have shown that the proposed approach outperforms the state-of-the-art descriptors in terms of the DCG score.

Keyword : 3D model retrieval; angle value; radial distance; elevation value; ART.